

5
C5 BORNSCHEUER et al.

Serial No. 09/161,680 7

7. (Twice amended) A method as claimed in claim 1, wherein a lipase, esterase or nitrilase [or phytase] is used.

REMARKS

1. Concerning applicants' Information Disclosure Statement of November 17, 1998, the Examiner has stated that the "Winnacker" reference has not been considered, because the citation thereof was incorrect on the IDS. Accordingly, applicants' affirm that the reference supplied with their IDS and identified as "Winnacker" is an excerpt taken from the book "GENES TO CLONES", esp. pp. 126-127 thereof, which book was published by VCH Verlagsgesellschaft, 220 East 23rd Street, New York, NY 10010-4606 in 1987. Applicants submit that the supplied copy of the excerpt, along with the instant citation and correct identification of publisher, should be sufficient for the Examiner's evaluation.

Also concerning applicants' Information Disclosure Statement, the Examiner has stated that the "Harpes" reference has not been considered, in the absence of a copy of the reference. On March 20, 2000, in a paper entitled "Submission" applicants submitted a copy of Harpes, "Microbiology", 3rd Ed. Chapter 9 "Gene Transfer in Bacteria" pp. 137-151(1980) in the file of this case.

2. Claim 5 has been objected to as informal, the Examiner requesting that applicants "insert 'a' before hydrolase in line 2 and to delete 'is used as enzyme' also in line 2." As claim 5 has only one line, and because "a" is already present before "hydrolase" in line 1 of Claim 5, applicants presume that this objection should actually

refer to Claim 6. By their amendment to Claim 6, discussed infra, applicants have obviated the basis for any such objection to Claim 6.

3. Claim 6 has been rejected under 35 USC 112, second paragraph, as being ambiguous, and lacking clarity, and indefinite, as a result of including an improper Markush Group. Applicants have accordingly amended the Markush Group of Claim 6 to recite an enzyme selected from the group consisting of proteases, lipases, phospholipases, esterases, phosphatases, amidases, nitrilases, ether hydrolases, peroxidases and glycosidases. See page 4, lines 7-18 of the instant specification. As a result, no term in this claim is considered to have a meaning which is redundant to the usual, accepted meaning of that term. Moreover, the constructions found objectionable by the Examiner in her reference to Claim 5 are not found in Claim 6, as a result of the present amendment. It is therefore submitted that Claim 6 is now free of objection, and is now in complete accord with 35 USC 112, second paragraph.

4. Claim 7 has been rejected under 35 USC 112, second paragraph as reciting an improper Markush Group containing a member which is a subset of another member. By the present amendment, applicants have deleted "phytase" from the recited Markush Group of Claim 7, thereby eliminating any redundancy or implication of a non-redundant meaning. Claim 7 is accordingly now in complete accord with 35 USC 112, second paragraph.

5. Claim 1-2 and 4-8 stand finally rejected under 35 USC 102(b) as being anticipated by Greener, the Examiner asserting that Greener inherently practices applicants' claimed method of altering the substrate specificity of an enzyme. IN reply,

applicants point out that Greener is directed to a method for the mutation of a phosphatase gene in E. coli XL1-Red. In Greener there is no evidence whatever of any increase in specific activity or any alteration in substrate specificity of the enzyme. Inherency may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient. Hansgird v. Kemmer, 40 USPQ 665, 667 (CCPA1939); In re Oelrich and Divigard, 212 USPQ 323, 326 (CCPA 1981). Here there is no real proof that substrate specificity was ever altered in Greener. Moreover, there nothing in Greener which would show that such would be recognized by the skilled artisan. Indeed, anticipation by inherency requires that 1) the missing matter is necessarily present in the prior art reference, and 2) it would be so recognized by persons of ordinary skill in the art. Continental Can Co. v. Monsanto Co. 20 USPQ 2d 1746, 1749 (Fed. Cir. 1991). It is accordingly requested that the rejection of Claim 1-2 and 4-8 under 35 USC 102(b) be withdrawn.

6. Claim 9 stands finally rejected under 35 USC 103(a) as being unpatentable over Greener in view of Wilks. In this regard, applicants point out that Claim 9 is dependent upon Claim 1. Accordingly Claim 9 has all of the elements of Claim 1. As a result, since Claim 1 is not rendered obvious by the combination of Greener in view of Wilks, Claim 9 is also not rendered obvious by the combination of Greener in view of Wilks.[It is noted that the Examiner has withdrawn her rejection of Claims 1-8 under 35 USC 103(a) as being unpatentable over Greener in view of Wilks.] In summary, applicants' position is that Greener as a whole teaches the mutation of a phosphatase gene in E.ColiXL1-Red. Wilkes as a whole teaches the difficult reconstruction of a redesigned

BORNSCHEUER et al. Serial No. 09/161,680

lactate dihydrogenase. There is no suggestion in either reference or in the combination thereof of the instant invention which is defined in Claim 9, which in turn has all of the elements and limitations of Claim 1 and 8, upon which it is dependent. Applicants therefore request that the rejection of Claim 9 under 35 USC 103(a) be withdrawn.


CONCLUSION

Based on the above amendments and remarks, applicants submit that the instant application is in condition for allowance. Early action to this end is requested.

Please charge any shortage in fees due in connection with the filing of this paper, including Extension of Time fees to Deposit Account No. 11-0345. Please credit any excess fees to such deposit account.

Respectfully submitted,

KEIL & WEINKAUF



George F. Helfrich
Reg. No. 22,350

1101 Connecticut Ave., N.W.
Washington, D.C. 20036
(202)659-0100

GFH/mks